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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/746,854

12/22/2000

James Morrow

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EXAMINER

PATEL, NIKETA I

ART UNIT

PAPER NUMBER

2181

MAIL DATE

DELIVERY MODE

12/28/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/746,854

Applicant(s)

MORROW ET AL.

Examiner

Niketa I. Patel

Art Unit

2181

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

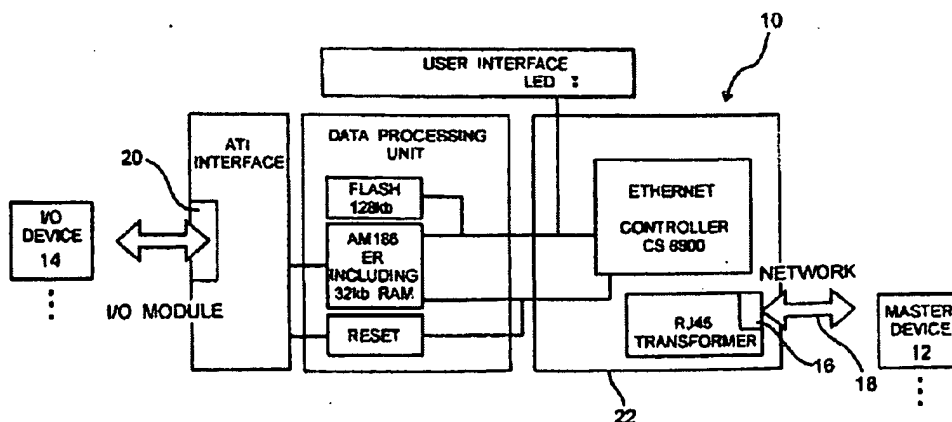
- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/10/2007.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 10/17/2007 have been fully considered but they are not persuasive. The applicant argues that Swales et al. U.S. Patent Number: 6,233,626 B1 (hereinafter '*Swales*') does not disclose "wherein the device controller interfaces between the plurality of peripheral devices and the non-true real time computer." The Examiner asserted that Swales's figure 3 element 10, located between elements 12 and 14, discloses this claim element. In contrast the claimed device controller that interfaces between the plurality of peripheral devices, Swales's adapter 10 connects via connector 20 to only a single I/O device 14. Furthermore, Montijo U.S. Patent Number: 6,052,107 discloses nothing to overcome the shortcomings of *Swales* (see pages 8-10 of the 'Remarks' section.)

The examiner respectfully disagrees with this argument. Figure 3 and column 1, lines 57-60 clearly indicate that the communication adapter 10 interfaces between field devices 14 and a field master 12 [Swales column 1, lines 57-63 and figure 3, below.]



SUMMARY OF THE INVENTION

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The present invention is a communications adapter for interfacing between MODBUS over Ethernet to TCP for the communication of information between field devices and a field master using these types of protocols. Field devices can include devices such as digital or binary inputs, digital or binary outputs, analog inputs, analog outputs, QPR units or other special units, and INTIO devices to name only a few. Field masters can include programmable logic controllers (PLCs) (sometimes referred to as process control devices or PCDs), application specific controllers, and host computers/ devices such as a personal computer with industrial auto-

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Double Patenting

2. Note: The double patenting rejection, set forth in the previous Office Action, is still maintained but not repeated. The applicant, in response filed on 01/08/2007, agreed to submit a Terminal Disclaimer at the time of allowance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-4, 6-20, 22-27 and 29-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Swales* and further in view of Montijo U.S. Patent Number: 6,052,107 (hereinafter '*Montijo*').

6. **Referring to claim 1**, *Swales* teaches a generic device controller unit system [see figure 3] for facilitating interaction between a processor [see figure 3, element 12, 'Master Device'] and a plurality of peripheral devices [see figure 3, element 14, 'I/O Device' and column 1, lines 23-42, 'field devices'], the system comprising: a general purpose device controller [see figure 3, element 10 and column 4, lines 5-7, 'the COM-adaptor'] employing asynchronous true real time peripheral device control [see column 1, lines 23-42 and column 4, sentence beginning at line 66, field device are controlled via specific true real time control protocols, such as MODBUS plus, Interbus-S, Profibus DP, Echelon, Seriplex, CAN DeviceNet, CAN SDS], wherein the device controller interfaces between the peripheral devices and a non-true real time computer a non-true real time operating system [see figure 3, element 10 located between elements 12 & 14 and column 1, lines 64-67 and column 2, lines 1-5, a personal computer/ host computer/ host device/ field master; column 6, lines 14-28 states that the COM-adaptor is compatible with host program running over Windows 95 & NT, therefore the host is

running on non-true real time operating system (i.e., Windows 95 & NT)], thereby allowing a non-true real time operating system to implement true real time control of the plurality of peripheral devices [see column 3, lines 15-23, 46-53, COM-adaptor allows the field master (i.e., the host device) to control field devices in real time without special operating system]; and a data and protocol communications interface [see figure 3, elements 22, 'ATI interface'], wherein the communications interface connects the processor and the peripheral devices [see figure 3, elements 22 and ATI interface are part of element 10 which provides communication interface between the host device (element 12, master device) and the peripheral devices (element 14, I/O device)], thereby allowing the processor to utilize a single protocol and associated data to communicate with the peripheral devices which may be utilizing protocols and associated data which are different than that used by the processor [see column 6, lines 20-25, the host side uses TCP/IP protocol which is different then the protocol used by the field devices, ATI protocol, as described in column 9, lines 30-34.]

Swales does not set forth the detailed limitation of the non-true real time computer having an non-true real time-enabled circuit board however, *Montijo* teaches a non-true real time computer having a non-true real time operating system and non-true real time-enabled circuit board [see *Montijo* column 4, lines 31-49, 'a computer motherboard' and lines 62-67, 'operating system' and column 5, lines 1-6, 'Windows 95, 3.1, NT operating system' i.e., the non-true real time operating system] in order to allow the host computer to process information. One of ordinary skill in the art at the time of applicant's invention would have clearly recognized that it is quite advantageous for the

non-true real time computer of *Swales* to have a non-true real time operating system and non-true real time-enabled circuit board to provide the host computer with information processing capability. It is for this reason that one of ordinary skill in the art would have been motivated to implement the non-true real time computer of *Swales* with a non-true real time operating system and non-true real time-enabled circuit board in order to allow the host computer to process information.

7. Referring to claim 12, *Swales* teaches a generic device controller unit system [see figure 3] for facilitation interaction between a processor [see figure 3, element 12, 'Master Device'] and a plurality of peripheral devices [see figure 3, element 14, 'I/O Device' and column 1, lines 23-42, 'field devices'], the system comprising: a general purpose device controller [see figure 3, element 10 and column 4, lines 5-7, 'the COM-adapter'] employing asynchronous true real time peripheral device control [see column 1, lines 23-42 and column 4, sentence beginning at line 66, field device are controlled via specific true real time control protocols, such as MODBUS plus, Interbus-S, Profibus DP, Echelon, Seriplex, CAN DeviceNet, CAN SDS], wherein the device controller interfaces between the plurality of peripheral device and a non-true real time computer having a non-true real time operating system [see figure 3, element 10 located between elements 12 & 14 and column 1, lines 64-67 and column 2, lines 1-5, a personal computer/ host computer/ host device/ field master; column 6, lines 14-28 states that the COM-adapter is compatible with host program running over Windows 95 & NT, therefore the host is running a non-true real time operating system (i.e., Windows 95 & NT)] thereby allowing a non-true real time operating system to implement true real time

control of the peripheral devices without a processor requiring either a real time kernel or a layered true real time operating system [see column 3, lines 11-23, 46-53, column 6, lines 14-28 and column 1, lines 23-42, the COM-adaptor allows a host running Windows OS to control field devices which are using real time protocol such as MODBUS.]

8. *Swales* does not set forth the detailed limitation of the non-true real time computer having an non-true real time-enabled circuit board however, *Montijo* teaches a non-true real time computer having a non-true real time operating system and non-true real time-enabled circuit board and [see *Montijo* column 4, lines 31-49, 'a computer motherboard' and lines 62-67, 'operating system' and column 5, lines 1-6, 'Windows 95, 3.1, NT operating system' i.e., the non-true real time operating system] in order to allow the host computer to process information. One of ordinary skill in the art at the time of applicant's invention would have clearly recognized that it is quite advantageous for the non-true real time computer of *Swales* to have a non-true real time operating system and non-true real time-enabled circuit board to provide the host computer with information processing capability. It is for this reason that one of ordinary skill in the art would have been motivated to implement the non-true real time computer of *Swales* with a non-true real time operating system and non-true real time-enabled circuit board in order to allow the host computer to process information.

9. **Referring to claim 19**, *Swales* teaches a generic device controller unit system [see figure 3] for providing a data and protocol communication interface which facilitates interaction between a processor [see figure 3, element 12, 'Master Device'] and a

plurality of peripheral devices [see figure 3, element 14, 'I/O Device' and column 1, lines 23-42, 'field devices'], the system comprising: an asynchronous general device data and protocol communications interface [see figure 3, element 10 and column 4, lines 5-7, 'the COM-adapter'], wherein the communications interface connects a processor and a plurality of peripheral devices [see figure 3, element 10 located between elements 12 & 14 and column 1, lines 64-67 and column 2, lines 1-5, a personal computer/ host computer/ host device/ field master], thereby allowing the processor to unitize a single protocol and associated data to communicate with the various peripheral devices which may utilize different protocols and associated data than that used by the processor [see column 3, lines 11-23, 46-53, column 6, lines 14-28 and column 1, lines 23-42, the COM-adapter allows a host running Windows OS to control field devices which are using real time protocol such as MODBUS] and wherein the communications interface employs asynchronous true real time peripheral device control [see column 1, lines 23-42 and column 4, sentence beginning at line 66, field devices are controlled via specific true real time control protocols, such as MODBUS plus, Interbus-S, Profibus DP, Echelon, Seriplex, CAN DeviceNet, CAN SDS], and wherein the communications interface connects the peripheral devices and a non-true real time computer having a non-true real time operating system [see figure 3, element 10 located between elements 12 & 14 and column 1, lines 64-67 and column 2, lines 1-5, a personal computer/ host computer/ host device/ field master; column 6, lines 14-28 states that the COM-adapter is compatible with host program running over Windows 95 & NT, therefore the host is running a non-true real time operating system (i.e., Windows 95 & NT).] Swales does

not set forth the detailed limitation of the non-true real time computer having an non-true real time-enabled circuit board however, *Montijo* teaches a non-true real time computer having a non-true real time operating system and non-true real time-enabled circuit board and [see *Montijo* column 4, lines 31-49, 'a computer motherboard' and lines 62-67, 'operating system' and column 5, lines 1-6, 'Windows 95, 3.1, NT operating system' i.e., the non-true real time operating system] in order to allow the host computer to process information. One of ordinary skill in the art at the time of applicant's invention would have clearly recognized that it is quite advantageous for the non-true real time computer of *Swales* to have a non-true real time operating system and non-true real time-enabled circuit board to provide the host computer with information processing capability. It is for this reason that one of ordinary skill in the art would have been motivated to implement the non-true real time computer of *Swales* with a non-true real time operating system and non-true real time-enabled circuit board in order to allow the host computer to process information.

10. **Referring to claim 24**, *Swales* teaches a method for providing a data and protocol communications interface to facilitate interaction between a processor [see figure 3, element 12, 'Master Device'] and a plurality of peripheral devices [see figure 3, element 14, 'I/O Device' and column 1, lines 23-42, 'field devices'], the method comprising: interfacing between the plurality peripheral devices [see figure 3, element 14, 'I/O Device' and column 1, lines 23-42, 'field devices'] a non-true real time computer having a non-true real time operating system [see figure 3, element 10 located between elements 12 & 14 and column 1, lines 64-67 and column 2, lines 1-5, a personal

computer/ host computer/ host device/ field master; column 6, lines 14-28 states that the COM-adapter is compatible with host program running over Windows 95 & NT, therefore the host is running a non-true real time operating system (i.e., Windows 95 & NT)]; employing asynchronous true real time peripheral device control through a generic device controller unit [see figure 3, element 10 and column 4, lines 5-7, 'the COM-adapter'], wherein the device controller allows the processor to implement true real time control of the peripheral devices without the non-true real time operating system requiring either a real time kernel or a layered true real time operating system [see column 3, lines 11-23, 46-53, column 6, lines 14-28 and column 1, lines 23-42, the COM-adapter allows a host running Windows OS to control field devices which are using real time protocol such as MODBUS]; and providing a protocol and associated data communications interface [see figure 3, elements 22, 'ATI interface'] between the processor and the peripheral devices [see figure 3, elements 22 and ATI interface are part of element 10 which provides communication interface between the host device (element 12, master device) and the peripheral devices (element 14, I/O device)], thereby allowing the processor to utilize a single protocol and associated data to communicate with the peripheral devices which may utilize different protocols and associated data then that used by the processor [see column 6, lines 20-25, the host side uses TCP/IP protocol which is different then the protocol used by the field devices, ATI protocol, as described in column 9, lines 30-34.] *Swales* does not set forth the detailed limitation of the non-true real time computer having an non-true real time-enabled circuit board however, *Montijo* teaches a non-true real time computer having a

non-true real time operating system and non-true real time-enabled circuit board and [see *Montijo* column 4, lines 31-49, 'a computer motherboard' and lines 62-67, 'operating system' and column 5, lines 1-6, 'Windows 95, 3.1, NT operating system' i.e., the non-true real time operating system] in order to allow the host computer to process information. One of ordinary skill in the art at the time of applicant's invention would have clearly recognized that it is quite advantageous for the non-true real time computer of *Swales* to have a non-true real time operating system and non-true real time-enabled circuit board to provide the host computer with information processing capability. It is for this reason that one of ordinary skill in the art would have been motivated to implement the non-true real time computer of *Swales* with a non-true real time operating system and non-true real time-enabled circuit board in order to allow the host computer to process information.

11. **Referring to claims 2, 13, 25**, combination of *Swales & Montijo* teaches wherein the generic device controller unit system produces true real time peripheral device control while interfaced with a non-true real time operating system running standard non-true real time software [see *Swales* figure 3, element 10 located between elements 12 & 14 and column 1, lines 64-67 and column 2, lines 1-5, a personal computer/ host computer/ host device/ field master; column 6, lines 14-28 states that the COM-adaptor is compatible with host program running over Windows 95 & NT, therefore the host is running a non-true real time operating system (i.e., Windows 95 & NT).]

12. **Referring to claims 3, 14, 20, 26**, combination of *Swales & Montijo* teaches the system and the method wherein the generic device controller unit system functions as a

distributed processing environment [see column 6, lines 14-23 and column 3, lines 15-23, 46-53, networked devices COM-adapter, host computer and field devices provide distributed processing.]

13. **Referring to claims 4, 27**, combination of *Swales & Montijo* teaches the system and the method wherein the generic device controller unit system further includes customized system drivers [see *Swales* column 6, lines 42-63, kernel firmware of the COM-adapter.]

14. **Referring to claims 6, 18, 29**, combination of *Swales & Montijo* teaches the system and the method wherein the generic device controller unit system interfaces with the non-true real time operating system that functions in a Win32 environment [see *Swales* column 5, lines 1-6, 'Windows 95, 3.1, NT operating system' i.e., Win32 environment non-true real time operating system.]

15. **Referring to claims 7, 15, 22, 30**, combination of *Swales & Montijo* teaches the system and the method wherein the generic device controller unit system is an input/output device interface for a processor to peripheral devices [see *Swales* figure 3, element 10 and column 3, lines 46-53 and column 4, lines 5-7, the COM-adapter provides communication interface to a master processor and an I/O device.]

16. **Referring to claims 8, 16, 31**, combination of *Swales & Montijo* teaches the system and the method wherein the generic device controller unit system provides real time device control to resource management capabilities of a standard non-true real time operating system [see *Swales* column 3, lines 11-23, 46-53, column 6, lines 14-28 and column 1, lines 23-42, the COM-adapter allows a host running Windows OS to

control field devices which are using real time protocol such as MODBUS, the host does runs Windows operating system, Windows operating system do not run true real time kernel; also see column 3, 15-23, which specifically discloses that real time component are not required, instead standard network components are shared.]

17. **Referring to claims 9, 17, 23, 32**, combination of *Swales & Montijo* teaches the system and the method wherein the generic device controller unit system produces true real time peripheral device control without the higher level functionality of the processor [see *Swales* column 3, lines 11-23, 46-53, column 6, lines 14-28 and column 1, lines 23-42, the COM-adaptor allows a host running Windows OS to control field devices which are using real time protocol such as MODBUS, the host does runs Windows operating system, Windows operating system do not run true real time kernel; also see column 3, 15-23, which specifically discloses that real time component are not required, instead standard network components are shared.]

18. **Referring to claims 10, 33**, combination of *Swales & Montijo* teaches the system and the method wherein the generic device controller unit system produces true real time peripheral device control without the processor using a true real time kernel [see *Swales* column 3, lines 11-23, 46-53, column 6, lines 14-28 and column 1, lines 23-42, the COM-adaptor allows a host running Windows OS to control field devices which are using real time protocol such as MODBUS, the host does runs Windows operating system, Windows operating system do not run true real time kernel; also see column 3, 15-23, which specifically discloses that real time component are not required, instead standard network components are shared.]

19. **Referring to claims 11, 34**, combination of *Swales & Montijo* teaches the system and the method wherein the generic device controller unit system produces true real time peripheral device control without the processor utilizing a layered true real time operating system [see *Swales* column 3, lines 11-23, 46-53, column 6, lines 14-28 and column 1, lines 23-42, the COM-adaptor allows a host running Windows OS to control field devices which are using real time protocol such as MODBUS; also see column 3, 15-23, which specifically discloses that real time component are not required, instead standard network components are shared.]

20. **Referring to claims 35-38**, the combination of *Swales, Montijo* and *Halviatti* teaches a use of MODBUS over Ethernet to TCP for the communication of information between the field devices and the field master [see *Swales* column 1, lines 57-60] however does not set forth the limitation of wherein the facilitated interaction between the peripheral devices and non-true real time computer comprise data transfer that are not bounded by length. *Swales* discloses various other types of network communication protocols such as Interbus-S, Profibus DP, Modbus Plus, Echelon, Seriplex, CAN DeviceNet, CAN SDS, and CANCEL each of which having specific and different communication requirements [see column 1, lines 28-41 – different communication requirements – i.e., each of various types of protocols has different types of data transfer length.] It would have been obvious to one of ordinary skill in the art at the time of applicant's invention that it is quite advantageous to facilitate interaction between the peripheral and the non-true real time computer with data transfers that are not bounded by length by providing various type of communication protocols in order to provide user

with the flexibility to implement various types of communication protocols. It is for this reason that one of ordinary skill in the art would have been motivated to implement interaction between the peripheral and the non-true real time computer with data transfers that are not bounded by length by providing various type of communication protocols in order to obtain above stated advantage.

21. Claims 5, 21, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Swales & Montijo* as modified above in claims 1, 19, 24 and further in view of *Evoy et al.* U.S. Patent Number: 5,958,020 (hereinafter "*Evoy*".)

22. **Referring to claims 5, 21, 28**, combination of *Swales & Montijo* teaches a generic device controller unit system and a method for facilitating interaction between a processor and any number of peripheral devices [*Swales* figure 3, element 10 located between elements 12 & 14 and column 1, lines 64-67 and column 2, lines 1-5, a personal computer/ host computer/ host device/ field master; column 6, lines 14-28 states that the COM-adaptor is compatible with host program running over Windows 95 & NT, therefore the host is running a non-true real time operating system (i.e., Windows 95 & NT) and *Montijo* teaches serial port, figure 6, element 610.] The combination of *Swales & Montijo* does not set forth the limitation wherein Universal Serial Bus is the default communication protocol between the generic device controller unit system and the processor, however *Evoy* teaches a use of Universal Serial Bus protocol between the generic device controller unit system and the processor [see *Evoy* column 2, lines 46-60 and column 1, lines 23-43] because USB connects peripheral devices to the

resources of the computer system without consuming the input output resources of the computer system and also provides for automatic USB peripheral device configuration and eliminates computer system resource conflicts. One of ordinary skill in the art at the time of applicant's invention would have clearly recognized that it is quite advantageous for the system of *Swales & Montijo* to be able to automatically configure peripheral devices in order to eliminate computer system resource conflicts by using USB protocol. It is for this reason that one of ordinary skill in the art would have been motivated to implement USB protocol in the system of *Swales & Montijo* to eliminate computer system resource conflicts and saving input output resources.

Conclusion

23. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Niketa I. Patel whose telephone number is (571) 272 4156. The examiner can normally be reached on M-F 8:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alford Kindred can be reached on (571) 272 4037. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Niketa Patel
Patent Examiner

12/21/2007